

DMOS TRANSISTORS WITH
SCHOTTKY DIODE BODY STRUCTURE

ABSTRACT OF THE DISCLOSURE

A DMOS device in a complex integrated circuit having a well region defined by a buried isolation region and an overlapping deep drain region within an epitaxial layer formed over a substrate, a body region having two source regions within the well region, insulated gates over the two source regions, and a Schottky contact over a central portion of the well region and spaced from the body region. The Schottky contact defines a Schottky diode within the epitaxial layer for diverting current from the substrate in the event of a below ground effect or an oversupply effect. The invention reduces or eliminates altogether the effects of parasitic transistors in the complex integrated circuit.